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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/264,756      | 03/09/1999  | VENKATESH KRISHNAN   | 10981459-1          | 3679             |

22879            7590            09/27/2002

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EXAMINER

NGUYEN, DUSTIN

ART UNIT

PAPER NUMBER

2156

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 09/264,756             | KRISHNAN ET AL.     |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Dustin Nguyen          | 2156                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 September 2002.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Disposition of Claims

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. Claims 1 – 19 are presented for examination.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herriot ( USPN 6134583 ), in view of Ramakrishnan et al. ( USPN 5636355 ), and further in view of Hartung et al. ( US Patent No 4633387 ) and Ambroziak ( US Patent No 6055526 ).

4. As per claim 1, Herriot teaches

class structure ( i.e. cache file ) for holding one or more of a set of predefined classes ( i.e. table ) ( e.g. col 9, line 29-34 ) for use by an application program that executes under the virtual machine ( e.g. col 11, line 46-48 )

class loader that obtains one or more of the predefined classes from a network server ( e.g. col 10, line 22-28 ) and that stores the predefined classes into the class structure ( e.g. col 11, 19-22 ).

Herriot does not disclose the memory manager that purges selected ones of the predefined classes from the class structure so as to minimize an amount of the memory

consumed by the predefined classes in the class structure and to minimize class loading activities on the network.

Ramakrishnan discloses purging selected ones of the predefined classes ( i.e. data ) from the class structure ( e.g. col 4, line 24-29 ).

Ambroziak discloses minimize an amount of the memory consumed by the predefined classes in the class structure ( e.g. col 8, line 53-62 ).

Hartung discloses minimize class loading activities on the network ( e.g. col 4, line 40-46 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot, Ramakrishnan, Hartung and Ambroziak, because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory and minimizing data transfer to maximize data processing throughput.

5. As per claim 2, Herriot teaches the class loader obtains the predefined classes from an http server ( e.g. col 9, line 7-8) that exports a set of class files containing one or more of the predefined classes ( e.g. col 10, line 22-28 )

6. As per claim 3, Herriot teaches the class loader includes an HTTP client ( e.g. col 9, line 6 ) that generates an HTTP GET command that specifies a particular one of the class files and provides the HTTP GET command to the HTTP server in response to a request to load a particular one of the predefined classes ( e.g. col 11, line 15-17 ).

7. As per claim 4, Herriot teaches the HTTP GET command ( i.e. HTML tag ) specifies a URL for the particular one of the class files ( e.g. col 10, line 22-28 ).

8. As per claim 5, Herriot teaches class definition statement ( i.e. identifier ) that specifies one or more URLs for the class files ( e.g. col 2, line 20-22 ).

9. As per claim 6, Herriot does not disclose the memory manager purges a least recently used one of the predefined classes from the class structure if the least recently used class is not in use.

Ramakrishnan discloses the above limitation ( e.g. col 10, line 28-33 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot and Ramakrishnan et al., because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory.

10. As per claim 7, Herriot does not disclose the memory manager purges a next least recently used one of the predefined classes if the least recently used class is in use.

Ramakrishnan discloses the above limitation ( e.g. col 10, line 33-54 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot and Ramakrishnan et al., because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory.

11. As per claim 8, Herriot does not disclose the memory manager purges a set of objects ( i.e. blocks ) associated with the least recently used or the next recently used one of the predefined classes purged from the class structure.

Ramakrishnan et al. teaches the above limitation ( e.g. col 10, line 52-54 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot and Ramakrishnan et al., because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory.

12. As per claim 9, Herriot does not disclose the memory manager purges the least recently used or the next recently used one of the predefined classes at periodic times.

Ramakrishnan et al. discloses the above limitation ( e.g. col 5, line 30-32 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot and Ramakrishnan et al., because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory.

13. As per claims 10 and 11, Herriot does not disclose purging the least recently used or the next recently used one of the predefined classes if an amount of available memory falls below a predefined threshold level and system becomes idle.

Ramakrishnan discloses the above limitations ( e.g. col 5, line 30-49 ).

At the time the invention was made, it would have been obvious to a person skill in the art to combine Herriot and Ramakrishnan et al., because if the class structure is full, in order to store addition class, old class must be replaced ( i.e. purge ) from memory resource, thereby making efficient use of a limited amount of memory.

14. As per claims 12 and 13, they are rejected as similar reasons as stated above.

Furthermore, Herriot shows the use of elements and functions of the above being performed as a method ( e.g. claim 1, and 2 ).

15. As per claims 14 and 15, they are rejected as similar reasons as stated above.
16. As per claim 16, it is rejected as similar reasons as stated above. Furthermore, Herriot shows the use of elements and functions of the above being performed as an apparatus ( e.g. claim 15 ).
17. As per claims 17, 18 and 19, they are rejected as similar reasons as stated above.
18. Applicants' arguments filed 09/09/2002 have been fully considered but are not persuasive.
19. In the remarks, applicants amended claims 1, 2, 10, 12 and 16 with additional limitations of (1) so as to minimize an amount of the memory consumed by the predefined classes in the class structure and to minimize class loading activities on the network.
20. As to point (1), claims 1, 2, 10, 12 and 16 stand rejected as above because Herriot, Ramakrishnan, Hartung, and Ambroziak teach all the limitations.
21. In the remarks, applicants argued that (2) it would be impermissible hindsight based on an applicant's own disclosure to incorporate the disk cache memory management teachings of Ramakrishnan into the client-server file loading teachings of Herriot.

22. As to point (2), examiner disagrees because the disk cache memory in the teaching of Ramakrishnan could be located remotely ( i.e. gateway ), so accessing the information is similar to client-server file loading teachings of Herriot.

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (703) 305-5321. The examiner can normally be reached on Monday – Friday (8:00 – 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alvin Oberley can be reached on (703) 305-9716.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directly to the receptionist whose telephone number is (703) 305-3900.

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Art Unit: 2156

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Dustin Nguyen

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~~09/01/02~~

*09/24/02*

*JR*

JOHN A. FOLLANSBEE  
PRIMARY EXAMINER